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ABSTRACT

Past research on teachers' causal attributions has shown little relation between perceptions of responsibility for positive versus negative student learning outcomes. In this study, Weiner's model for causal attributions was employed to explore these perceived attributional differences. Data were gathered from 184 teachers from two metropolitan school districts. Of the 184 teachers, 60 taught grades 1-8, 124 taught grades 9-12; 69 were male, all of whom taught at the secondary level. Teachers were asked to complete a questionnaire which asked them to divide 100 percent among four probable causes for a classroom situation in which they were either particularly successful or unsuccessful with a group of students. Causes related to their teaching abilities, effort put into teaching, difficulty of the task and luck. Statistically significant differences between attributions for positive versus negative outcomes were identified along the dimensions of both internality/externality and stability of cause. Relations to overall efficacy, teaching experience, grade level taught, and teacher gender were also explored. However, only grade level differences were found to be statistically significant. Elementary teachers tended to attribute their lack of success to lack of effort more than did secondary teachers. (Author/RL)

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DIFFERENCES IN TEACHERS' PERCEPTIONS OF THE CAUSES OF POSITIVE VERSUS NEGATIVE STUDENT ACHIEVEMENT OUTCOMES

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Abstract

Past research on teachers' causal attributions has shown there to be little relation between perceptions of responsibility for positive versus negative student learning outcomes. In this study, Weiner's model for causal attributions was employed to explore these perceived attributional differences. Data were gathered from 184 teachers from two metropolitan school districts. Statistically significant differences between attriubtions for positive versus negative outcomes were identified along the dimensions of both internality/externality and stability of cause. Relations to overall efficacy, teaching experience, grade level taught, and teacher gender were also explored, however, only grade level differences were found to be statistically significant.

Differences in Teachers' Perceptions of the Causes of Positive Versus Negative Student Learning Outcomes

In recent years a growing number of researchers have identified teachers' perceived responsibility for students' achievement as a powerful variable in studies of instructional effectiveness (Brophy, 1979; Cooper & Baron, 1977). Sometimes referred to as a "sense of efficacy" (White, 1959), perceptions of personal control on the part of teachers have been found to be related to student learning outcomes in a variety of educational settings. For example, in reporting on the Rand Corporation's Change Agent study, McLaughlin and Marsh (1978) noted that teachers' sense of efficacy -- defined as "the extent to which the teacher believed he or she had the capacity to effect student performance" -- was "the most powerful teacher attribute in the Rand analysis," (p. 84). Similarly, Brookover and Lezotte (1979) found through interviews with school personnel that those in the more effective schools had a stronger sense of efficacy and tended to feel more responsible for the learning of their students than did those in less effective schools. Other studies of this construct have yielded similar results (cf. Murray & Staebler, 1974; Porter & Cohen, 1977).

Research on teachers' perceptions of responsibility or control of student learning outcomes has also consistently shown there to be little relation between assumed responsibility for positive learning outcomes versus responsibility for negative learning outcomes, despite the conceptual similarity of these constructs. In developing the Responsibility for Student Achievement scale (RSA), Guskey (1980) found the correlation between measures of perceived responsibility for positive versus negative classroom events to be only +.20. This was seen as evidence that these

two dimensions were relatively independent, similar to what Crandall, Katkovsky and Crandall (1965) had found in investigating childrens' perceptions of personal control in achievement related situations. Ross and Medway (1980) found very similar results in developing their Teacher Locus of Control scale (TLC). In this research a correlation of only +.33 was found between items measuring internal responsibility for student success and those measuring internal responsibility for student failure.

Several researchers have sought to explain differences in teachers' perceptions of responsibility for positive student learning outcomes compared to that assumed for negative outcomes. The results of these studies, however, have been inconsistent. For example, Johnson, Feigenbaum, and Weiby (1964) found that in a laboratory teaching task, teachers tended to make "defensive" attributional assignments, accepting personal responsibility for student improvement but blaming the situation for student failures. In a similar laboratory setting, Beckman (1970) also found that teachers tended to credit themselves for student improvement while attributing failure primarily to external situational factors. But in a number of other studies teachers have been found to make more "counter-defensive" attributions. Ross, Bierbrauer and Polly (1974), for instance, found that professional teachers attributed responsibility for failure to themselves and responsibility for success to the student. Similarly, counter-defensive perceptions on the part of teachers have been identified in the research of Ames (1975), Beckman (1973), and Tetlock (1980).

Aside from the inconsistencies in the results of these studies, their utility and generalizability have been limited by two major factors. The

first is that the subjects involved in most of these studies were undergraduate education or psychology students rather than experienced classroom teachers. Classroom experience might very likely alter teachers' perceptions of responsibility and attributional assignments. The second and perhaps more serious factor is that all of these studies have involved an artificially constructed, laboratory teaching situation, in which a teacher is paired with one real or bogus student. This is certainly quite different from the group-based classroom teaching situation encountered by most teachers.

The present study was designed to identify factors which might possibly account for these attributional differences and, hence, influence the specific personal control distinctions which are made by teachers. Furthermore, in order to alleviate the factors which have limited previous research, the sample included in this study consisted of only veteran teachers whose perceptions were based upon their personal classroom experiences.

Theoretical Framework

Weiner and his associates (Weiner, Frieze, Kukla, Reed, Rest, & Rosenbaum, 1971) were among the first to propose a systematic analysis of the factors which underlie causal perceptions and attributions. The model developed by Weiner et al. (see also Weiner, 1972) classified individuals' beliefs about the causes of success and failure along two dimensions. One dimension differentiated causal elements in terms of their internality/externality, similar to Rotter's concept of locus of control (Rotter, 1966). The second dimension differentiated attributions in terms of their stability over time. The crossing of these two dimensions defined the four general categories of causes in Weiner's attribution model. That is, individuals

were believed to view the causes of their successes and failures as principally due to their ability (internal/stable), their effort (internal/unstable), the difficulty of the task (external/stable), and/or good or bad luck (external/unstable).

Since Weiner introduced the basic principles of his model to educational researchers, additional dimensions have been suggested. For instance, Rosenbaum (1972) suggested adding intentionality as a third causal dimension. More recently, Cooper and Burger (1980) have suggested the addition of the degree of personal influence, labeled "personal efficacy," as a useful, independent dimension. Nevertheless, because of the general nature and wide applicability of Weiner's original model, most researchers have concentrated their efforts on studying the use of the two dimensions and four categories of causes as initially proposed (Bar-Tal, 1978).

Studies involving free response academic attributions of teachers have indicated that teachers occasionally do describe causes other than those defined by the dimensions of internality/externality and stability over time in explaining their perceptions of personal responsibility or control over the learning outcomes of their students (Cooper & Burger, 1980; Frieze, 1976). However, it was felt that these general dimensions would provide a useful framework for this initial investigation of attribution differences because they defined broad categories of attributions which would be likely to include the vast majority of causes teachers might typically use in describing the successes and failures of their students.

Method

Subjects. The participants in this study were 184 teachers from two metropolitan school districts. Sixty of the teachers reported teaching at the elementary level (1-8), 124 taught at the secondary level (9-12). Sixty-nine of the teachers were male, all of whom taught at the secondary level. The number of years teaching experience among these teachers ranged from three to 27 years, with a mean of 10.5 years.

Procedure. At the beginning of a series of planned inservice meetings for the teaching personnel in each of these districts, teachers were asked to complete a short questionnaire. In addition to some general demographic questions (years of experience, grade level, etc.), one section of the questionnaire asked teachers to divide 100 points (or percent) among four probable causes or reasons for a classroom situation in which they were (a) particularly successful with a group or class of students, and (b) particularly unsuccessful with a group or class of students. The four probable causes related to their specific teaching abilities, the effort put into teaching, the difficulty of the task (i.e., how academically good or poor the students were upon entering the class), and good or bad luck.

In addition, an overall estimate of each teacher's personal sense of efficacy was assessed by including on the questionnaire the efficacy items developed in the research of Berman and McLaughlin (1977). This was done in order to assess differences in the strengths of teachers' perceptions of personal control. The first of these items asked whether the teacher felt that "When it comes down to it, a teacher really can't do much because

most of a student's motivation and performance depend on his or her home environment." The second item asked whether the teacher thought that "If I really try hard, I can get through to even the most difficult or unmotivated students." (Berman & McLaughlin, 1977, p. 137). Teachers rated each of these statements on a 7-point scale from strongly agree to strongly disagree. Scale ratings were reversed for each of the items in that strongly disagree received 7 points for the first item (negative) while strongly agree received 7 points for the second item (positive).

Results

Summary of the Measures. The means and standard deviations of the weights assigned by various subgroups of teachers to each of the attribution categories are listed in Table 1. Similar to other studies (Bar-Tal & Darom, in press; Cooper & Burger, 1980; Guskey, 1980) these experienced classroom teachers tended to make "defensive" attributional assignments, reporting greater internal responsibility for the successes of their students than for the failures. This is evidenced in greater weight being assigned the internal categories (ability and effort) for positive outcomes compared to that for negative outcomes and also in scores on measures of personal efficacy. Also consistent with other studies is the fact that luck was cited very seldomly as an explanation for either positive or negative student learning outcomes. Overall, teachers assigned less than five percent weight to the category of luck. Specific differences in the weights assigned the other categories and dimensions of attribution are examined in greater detail in later analyses.

[Insert Table 1 about here]

Intercorrelations Between Measures. The intercorrelations between selected demographic variables and the weights given each of the attribution categories are illustrated in Table 2. Years of teaching experience was not related to any of the attribution measures. Grade level, however, was negatively related to ability and effort (-.32 and -.15 respectively), and positively related to task difficulty (+.29) in terms of negative student outcomes. Apparently teachers at higher grade levels attribute less significance to their abilities and efforts and more to the difficulty of the task (entry skills of students) in explaining poor learning outcomes than do teachers at lower grade levels.

Further inspection of Table 2 shows that the correlations between the attribution categories within each type of student learning outcome are highly negative. This was expected, of course, since the 100 points (percent) were to be divided between the categories within each learning outcome group. Of greater interest for this study, however, are the correlations between comparable categories for positive versus negative student learning outcomes. These are indicated in the smaller box in Table 2. Correlations between identical categories for positive and negative outcomes ranged from +.11 to +.35. While three out of four of these correlations are statistically significant, their magnitude is relatively small considering the inherent similarity of the categories.

Also of interest in Table 2 are the correlations between the weights assigned the various attribution categories and measures of personal efficacy. For both positive and negative student outcomes, there is

a significant positive relation between measures of efficacy and the weight assigned teaching effort, and a significant negative relation between measures of efficacy and the weight assigned task difficulty. Apparently these two attribution categories, which differ on the dimensions of both internality/externality and stability over time, have the greatest influence upon measures of personal efficacy.

In addition, the correlation between measures of personal efficacy for positive versus negative student learning outcomes was found to be only +.30. This result is also quite similar to that obtained in earlier studies by Guskey (1980) and Rose and Medway (1980).

[Insert Table 2 about here]

Comparisons Between Attribution Dimensions. In order to more specifically explore the differences in the weights teachers assigned these attribution categories for positive and negative student outcomes (and also to reduce the number of necessary variables), categories were combined with respect to specific attribution dimensions. In other words, the weights assigned by each teacher to the categories of ability and effort were combined to make up an overall "internal" measure. Similarly, the weights assigned to the categories of ability and task difficulty were combined to make up an overall "stable" measure. Measures for "external" and "unstable" dimensions were unnecessary since the weight assigned both parts of a dimension was always equal to 100.

The means and standard deviations for these attribution dimension measures are listed in Table 3. Again there appeared to be important differences between the weights teachers assigned these dimensions for positive versus negative student outcomes. That is, the average weight

teachers assigned internal dimension categories for positive student outcomes was much larger than the average weight they assigned the same internal dimension categories for negative student outcomes. Similar differences, although in the opposite direction, were found in the average weights assigned the stability dimension categories. These differences were tested by calculating t-statistics for comparisons between paired observations. The differences between the overall means for each of these attribution dimensions for positive versus negative student outcomes were all statistically significant ($p < .001$).

[Insert Table 3 about here]

Multivariate Analysis of Variance. Finally, a multivariate analysis of variance was performed in order to explore the relation of various teacher characteristics to these attribution differences. Specifically, a two-way MANOVA was performed in which teacher gender and grade level taught (elementary = Grades 1-8; secondary = Grades 9-12) were the independent variables; the two attribution dimension measures for both positive and negative student outcomes were the four dependent variables. The results of this analysis are illustrated in Table 4.

[Insert Table 4 about here]

As Table 4 shows, there were no statistically significant differences in terms of the gender of teachers with respect to the weights assigned to these attribution dimensions for positive and negative student learning outcomes. However, difference in terms of grade level taught were statistically significant, $F(3,181) = 6.02$, $p < .001$. This result coincides with differences identified in the correlational analysis of the

variables. That is, teachers at the secondary level differ from teachers at the elementary level in terms of the weights they assign these attribution dimensions, particularly in explaining negative student outcomes. Tests of a gender-by-grade level interaction were not possible because none of the male teachers in the sample taught at elementary level.

Discussion

The results of this investigation indicate that teachers do use different causal attributions in explaining positive versus negative learning outcomes on the part of their students. When successful with a class of students, teachers generally attribute that success to the internal attributions of ability and effort, and make little distinction in terms of the stability of those causes over time.[1] Much less importance is attached to the abilities or skills students may have had upon entering the class. When unsuccessful with a class of students, the greatest emphasis is placed upon external attributions, primarily the difficulty of the task in teaching that particular group. In this situation, however, teachers also tend to emphasize insufficient effort (an internal/unstable cause) slightly more than they do deficient teaching abilities (an internal/stable cause), an indication that should they be confronted with a similar group of students in the future, the results are likely to be different.

Important attribution differences were also identified between elementary and secondary teachers. Elementary teachers tend to attribute

[1]It should be noted that the category of "ability" in this study refers to the instructional abilities of the teacher (an internal attribution for the teacher), rather than the learning abilities of a teacher's students (an external attribution for the teacher) as was the case in the research of Cooper & Burger (1980).

their lack of success with a particular group of students to internal causes, especially their effort, much more than do secondary teachers. This may be the result of general personality differences between elementary and secondary teachers. However this difference might also be specific to the teaching situation, in that teachers at the secondary level are likely to be sensitive to the fact that their students are older and have more firmly established learning patterns which are likely to be more difficult to change than are the learning patterns of the younger, less experienced students in the classes of elementary teachers. Additional research is necessary to explore these grade level attribution differences.

Finally, general measures of teacher's personal efficacy appear to be predominately influenced by only two of the attribution categories in Weiner's model: the internal/unstable category of effort and external/stable category of task difficulty. While the emphasis an individual teacher places upon each of these attribution categories differs with respect to the nature of student outcomes (that is, a teacher who feels that his/her efforts are the primary cause of positive student learning outcomes, may or may not feel that his/her efforts are primarily responsible when poor student learning outcomes occur), these two categories appear to be basic elements in measures of personal efficacy in teaching situations. Further research is needed to determine other elements beyond those identified in this categorical scheme which might affect these attribution distinctions and have influence upon specific teaching behaviors and practices.

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Table 1

Subgroup Means and Standard Deviations

for Personal Attribution Measures

	Female/Elem (n=60)		Female/Sec (n=55)		Male/Sec (n=69)		Total (n=184)	
	$\bar{X}$	(S.D.)	$\bar{X}$	(S.D.)	$\bar{X}$	(S.D.)	$\bar{X}$	(S.D.)
Positive Outcomes								
Ability	36.8	(14.7)	36.9	(14.5)	39.3	(15.4)	37.8	(14.9)
Effort	39.9	(14.8)	36.0	(13.7)	33.9	(15.8)	36.5	(15.0)
Task	20.6	(17.1)	22.0	(14.9)	21.1	(17.4)	21.2	(16.6)
Luck	3.1	(5.2)	5.1	(6.2)	4.2	(5.6)	4.1	(5.7)
Negative Outcomes								
Ability	26.8	(19.8)	14.8	(15.6)	16.3	(16.4)	19.5	(18.1)
Effort	30.7	(23.7)	17.6	(19.1)	20.3	(20.7)	23.2	(21.9)
Task	37.3	(27.8)	59.6	(29.6)	57.6	(28.2)	51.2	(30.0)
Luck	4.8	(6.8)	7.9	(12.0)	5.6	(8.5)	5.9	(9.1)
General Efficacy								
Positive	5.4	(1.3)	5.0	(1.3)	4.9	(1.5)	5.1	(1.4)
Negative	5.0	(1.6)	4.9	(1.6)	4.8	(1.5)	4.9	(1.6)
Combined	10.4	(2.3)	9.9	(2.3)	9.7	(2.7)	9.9	(2.5)

Table 2

Intercorrelations Among Teacher Variables and Attribution Categories

Variable	Years Experience	Grade Level	Positive				Negative				Efficacy	
			Ability	Effort	Task	Luck	Ability	Effort	Task	Luck	Positive	Negative
Years Experience	1.00	.17*	.11	-.14	.06	-.08	-.08	-.07	.12	-.07	.02	.12
Grade Level		1.00	.01	-.11	.01	.13	-.32**	-.15*	.29**	.04	-.20**	.01
Pos. Ability			1.00	-.28**	-.52**	-.19**	.11	-.03	.01	-.16*	.14	.08
Pos. Effort				1.00	-.52**	-.13	-.03	.35**	.24**	.03	.16*	.12
Pos. Task					1.00	.00	-.04	-.27**	.22**	.03	-.18**	-.23**
Pos. Luck						1.00	.01	.02	-.12	.33**	-.03	.01
Neg. Ability							1.00	.13	-.66**	-.11	.20**	-.02
Neg. Effort								1.00	-.76**	-.13	.20**	.24**
Neg. Task									1.00	-.14	-.26**	-.17*
Neg. Luck										1.00	.04	-.01
Positive Efficacy											1.00	.30**
Negative Efficacy												1.00

* $p < .05$ ** $p < .01$

Table 3

Subgroup Means and Standard Deviations for Various Dimensions of Attributions

Dimension	Group							
	Female/Elem (n=60)		Female/Sec (n=55)		Male/Sec (n=69)		Total* (n=184)	
	$\bar{X}$	(S.D.)	$\bar{X}$	(S.D.)	$\bar{X}$	(S.D.)	$\bar{X}$	(S.D.)
Positive Outcomes								
Internal	76.8	(16.8)	72.9	(16.3)	73.2	(20.0)	74.3	(18.0)
Stable	57.5	(15.5)	58.8	(14.2)	60.4	(16.7)	59.0	(15.6)
Negative Outcomes								
Internal	57.6	(28.5)	32.4	(29.3)	36.6	(27.7)	42.7	(30.2)
Stable	64.1	(23.5)	74.4	(19.9)	73.9	(22.5)	70.7	(22.6)

*Differences between positive and negative outcomes for each dimension:

Internal $t_{183} = 13.20$, $p < .001$

Stable $t_{183} = 6.80$, $p < .001$

Table 4

Summary of the Multivariate Analysis of Variance

Source of Variation	df	Tests of Significance				
		Multivariate F	Univariate F's			
			Pos./Internal	Pos./Stable	Neg./Internal	Neg./Stable
Constant	1	—	—	—	—	—
Gender, eliminating constant	1	.35	.25	.73	*4.46	2.16
(Gender, eliminating constant & level)	(1)	.13	.08	.15	.79	.02
Grade Level, eliminating constant & gender	1	**6.02	1.58	.35	**22.98	**6.14
Among Means	3	Univariate Mean Squares:				
Within groups	181		320.68	249.70	795.10	493.38
Total	184					

* p < .05 ** p < .01